#625 – August 2024

JUG

Publication of the Northern California Contest Club

NCCC

NCCC – 54 years of contesting excellence

Inside This Issue

NCCC MEETING

https://nccc.cc/meetings.html

ZOOM: Tue 13 Aug 2024 1830 PDT

Tom Schiller, N6BT

“Efficient Antennas For Limited Space”

President's Report

David West, KO6M

First, thank you again to Rick and his wife for opening their home to us. I’m sorry I couldn’t make it but I hear it was a great time. I hope we can do something like that again soon. (Perhaps in October when we have our NCCC BBQ? News to follow soon about that. We are trying to nail down the location). If you would like to host a get together, please reach out, we would love to have… err…be invited over.

Admittedly I haven’t been doing much of that recently. It’s been too hot to operate in the shack or even have the radio on while I sit in the AC. Somehow, I’ve only done IARU and a bit of NAQP RTTY in the last month. Only doing 2 contests makes the month seem so long. Soon enough our weekends will be filled up again with contests and dupes.

Of course there wasn’t a real lack of things to do, there are the weekly sprints, the POTA and SOTA chases, and of course there was the IOTA contest. Fear not, there is stuff out there, one just needs to look for it.

It’s time to start thinking about CQP (5-6 Oct). I know many of you operate at home but of course those that do expeditions and activate as rovers are probably planning things out now. It isn’t too late to decide to go on your own expedition! We will have a presentation in September rallying us up for CQP. Dean has some wonderful news about changes to this year’s program. I’m excited to see how it all works out.

About NCCC

Officers and Directors, 2023-2024 Contest Season

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Worked All CA Counties Award: Fred Jensen, K6DGW
Photographer: Bob Wilson, N6TV

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NS RTTY Sprint/Ladder: Ed Radlo, AJ6V

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VPCC Report

Chris Tate, N6WM

This month I thought I would dedicate a little column bandwidth to something many of us are seeing, talking about, and witnessing the effects of in our contest shacks: "**Change.**"

It is no secret that the demise of another one of our hallowed magazines, CQ Magazine, was in a slow burn decline over a series of years. This started with a series of missed publishing deadlines, poor home delivery reliability, and eventually even the electronic versions which were not published consistently, despite constant emails requesting new subscriptions from its reader base. The final nail in the coffin came with the passing of Richard Ross, K2MGA, publisher/backbone of CQ at the age of 84.

For many hams worldwide, this is a sad moment as we lose another platform for grassroots contributions from the ham community, as well as news of the day, and contest results from the CQ- sponsored contests.

We in the radiosport community placed high importance on the magazine that sponsored the largest amateur radio events ... CQ Worldwide contest series, CQ Worked all Prefix series, and the smaller CQ contest contributions.

So… now what? Well, there is a diamond in the rough regarding sponsorship and management of CQ contests. The demise of CQ Magazine was anticipated by the World Wide Radio Operators Foundation, Inc. Started in 2009, the WWROF has been silently funding and handling duties such as log-checking software, log submission robots, etc. A deeper dive shows that the WWROF also has been handling CQ magazine plaque sponsorship and awards management, including underwriting and managing sponsored plaque donations. There are lots of familiar names that should instill confidence in the contest community that our great contests will continue. Currently the WWROF is chaired by Tim Duffy, K3LR, and has a number of additional influential members on the Board, including Doug Grant, K1DG, John Dorr, K1AR, and our own Bob Cox, K3EST, and Trey, N5KO. (See a complete list of mission and services at *https://wwrof.org/* This is a stable organization and is a great place to donate to assist in keeping this group solvent into the future.

What does this mean for us, the enthusiastic CQ contest participants? The infrastructure for CQ contests has already been managed separately for years, and the WWROF has seamlessly taken over the contest sponsorship. The contests will still have the same name … (perhaps minus the "magazine" suffix) so CQ Worldwide and CQ WPX will remain the name of that familiar series. Their awards program remains intact as well as log submittal, scoring, awards, and other components of successful contest management.

The real change is the untethering of publishing deadlines and contest results. We are already seeing the signs of this change as the CQ WPX results were pushed out in record time and plaques were sent out 60 days after the contest completed! As the additional CQ contests normalize around this, we can expect a much more rapid post contest adjudication cycle.

But what about the results? Rest assured, all radiosport authors(myself included), contest managers, and support staff volunteers are all still there. The difference is that results will now be found at the respective individual contest web sites, and at a much more rapid pace than was when they were tied to a magazine publishing schedule. While we sadly say goodbye to CQ Magazine, as another publication loss to history we also thank the WWROF and its Directors and CQ Contest Hall of Famers and Volunteers, for their anticipation and seamless takeover of these incredible operating events so they can continue indefinitely for years to come.

Change can be tough, losing something that has been part of our hobby for as long as we can remember is also tough, but our Radiosport community is strong, and the WWROF is a great example of that. Thanks to them, the CQ Contests we all enjoy are in good hands.

Tom Schiller, N6BT

Guest Speaker, NCCC Meeting 13 Aug

Founder, Force 12, Inc. and Next Generation Antennas; 33 years of design and production, shipped >27,000 antennas (amateur, commercial, military); antenna research includes using drones since 2014 for empirical testing of verticals on flat ground(s), salt water and adjacent to sloping ground (discovered launch angle shift); empirical comparisons of current returns and current balance; developed first trapless triband Yagi (C-3/C-3S, 1991, patented feed system), trapless 4 & 5-band single feed-line Yagis (XR-5), larger trapless tri-band Yagis (C- 19XR, C-31XR, C-49XR); first 50-ohm direct-feed Yagis (Magnum 620, 1993); 80/75 mtr Yagis and 160 rotatable dipoles; single & multi-band (no-trap) verticals: ZR series -- VDA & SVDA -- Sigma series ("I" shaped, HF-VHF-UHF); Bravo series (latest V-8 and DX-8 for R.I.B.) -- VOR (vertical open ring, single & multi-band); "Gull Wing" radials; low profile towers and trailers; speaker at more than 30 conventions, in-person and ZOOM; author, Array of Light (Four Editions); co-founder of the NCJ; contributing editor to 25th Edition A.R.R.L. Antenna Book; articles in QST and NCJ; co-founder of Team Vertical with K2KW (>25 World Records); several patents related to wireless communications; licensed 1959, ARRL Life Member, CWops #281; contester (member of AOCC, Hualapai ARC, former NCCC, Paso Robles ARC, Mother Lode DX/CC, MWA); DXpeditions plus mobile and portable.

Upcoming State/Province QSO Parties

A Quick Reference for those participating in the Intra-Club QSO Party Challenge or just looking for a weekend contest fix

CONTEST	DATE(S)/TIME(S)
Hawaii	**8/24 0400Z – 8/26 0400Z**
Kansas	8/24 1400Z – 8/25 0200Z 8/25 1400-2000Z
Ohio	8/24 1600Z – 8/25 0400Z
Tennessee	9/1 1700Z – 9/2 0300Z
Colorado	Not yet posted
Texas	9/21 1400Z – 922 0200Z 9/22 1400Z to 2000Z
Iowa	9/21 1400Z – 9/22 0200Z
New Hampshire	9/21 1600Z -- 2200Z 9/22 1400Z -- 2000Z
New Jersey	9/21 1600Z – 9/22 0359Z
Washington Salmon Run	9/21 1600Z -- 9/22 0700Z 9/22 1600Z -- 2400Z
Maine	9/28 1200Z – 9/29 1200Z
CALIFORNIA QSO PARTY	**10/5 1600Z – 10/6 2200Z**
Nevada	10/12 0300Z – 10/13 2100Z
Arizona	10/12 1500Z – 10/13 0500Z
Pennsylvania	10/12 1600Z – 10/13 0400Z 10/13 1300Z – 2200Z
South Dakota	10/12 1800Z – 10/13 1800Z
New York	10/19 1400Z – 10/20 0200Z
Illinois	10/20 1700Z – 10/21 0100Z

Sierra Chapter "Truckee Radiogrill"

(*Ed. Note: The Sierra Chapter Staff Photographer was indisposed and unable to attend the Radiogrill so your Editor needed to pick up the job, demonstrating once again what a truly lousy photographer I am*)

July 21st marked the resumption of the annual gathering of the High Sierra Chapter of the NCCC at the Truckee residence of Rick, N6XI, and Ann, KD6MOB Tavan overlooking Boca Reservoir, which is pretty much full right now. It was a perfect day, sunny and warm on the deck amid the trees and a couple of towers with the usual antennas. Rick, a Beta-tester for Elecraft, had his K4 operational and remoted to his K4 in Saratoga, with the software remote running on the TV in the family room.

In Attendance

Rick, N6XI & Ann, KD6MOB
Tom, K5RC
Jim, K9JM
Hank, W6SX, & Rhonda
Doug, WE6Z
Dave, K6TQ
Stefan, AF6SA
Oliver, W6NV
Barry, K6ST
Todd, KH2TJ
Jim, W6EU
Tom, K6EU
Bob, NZ6G
Bill, W9KKN
Dennis, KX7M
Bob, K6NV
and K6DGW

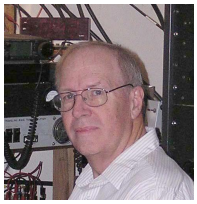
Rick and Ann provided the hamburgers and hot dogs with all the usual fixings, and the rest of us ate them. Lots of conversation about all the usual subjects when hams gather.

Tube of theMonth

Norm Wilson, N6JV

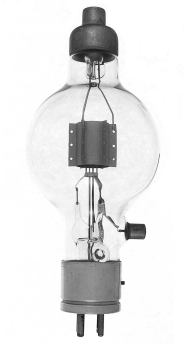
Visit the Tube Museum at *n6jv.com*

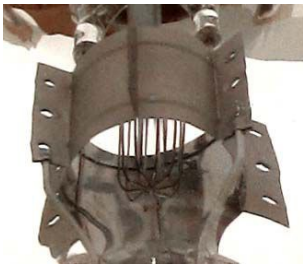
Eimac 50T

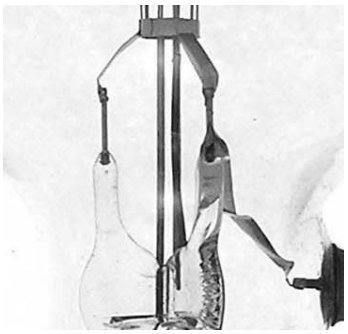


From 1936, Eimac marked all their tubes with a date code. This was expanded to add a factory code in WWII at the insistence of the military. The earliest Eimac tubes, the 150T and the 50T weren't usually marked at all. With a close examination of several different 50T tubes, it is possible to develop a timeline based on the evolution of the construction techniques.

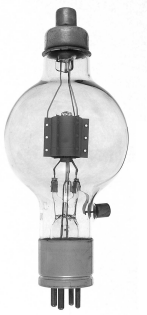
The first 50Ts began production in late 1934. The 50T was rated at 75 watts and had a mu of 12. The original tube had a stepped plate cap, metal base, elongated double loop shaped filament and a filament press with three long glass fingers that supported the grid. Plate and grid were made of tantalum metal. Wires that supported the grid were molded into the fingers. An additional wire was molded into the press and it was used to supported the center of the filament. The grid connection was a metal ribbon that was wrapped around one of the grid support wires.

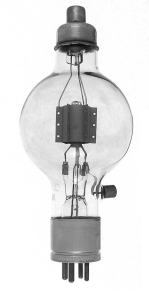






The requirement for the assembly to be done by a glass blower was an obvious problem for productivity. All alignment had to be done with a torch. Having the grid structure made separately must have helped assembly. In the second version, the three-grid support wires were terminated in upside-down U-shaped tabs that could be placed over the glass fingers. The glass blower just had to assemble the filament wires and assure that the fingers were the same length. The ribbon from the grid cap was attached. to one of the tabs. The plate cap was changed to one with a thin lower skirt.





The third version had a spiral filament that didn't require an additional support wire. Perhaps 10% of the tubes with the spiral filament were made with a single, flat press with two fingers. Each of these changes show an improvement in the ease of assembly, mechanical stability or cost of production.

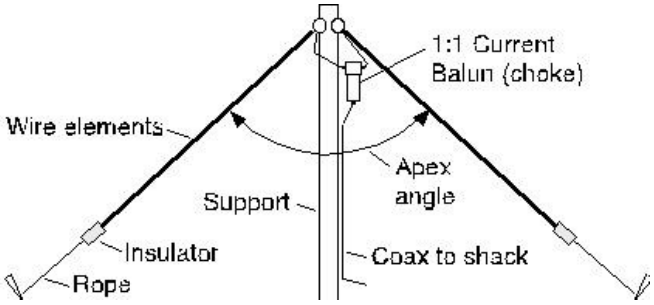
In 1936 the 50T became the 100T with the plate and grid connections made to use heat dissipating connectors.

Antenna of the Month

Gary Johnson, NA6O

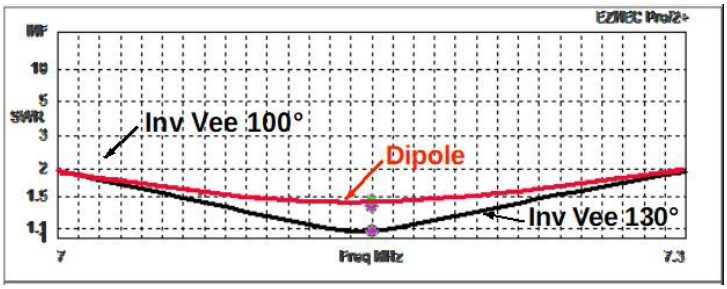
The Inverted Vee

One of the natural modification to a simple half-wavelength dipole is the *Inverted Vee*. As you may know, most of the radiated energy comes from the part of an antenna where current is greatest, and that's the center of a dipole. So your first objective is to get that up as high and clear as you can. But if you only have one tall support, attach the center and the feed line to that, and let the ends of the antenna slope downward. That forms the inverted vee configuration and it's almost as good as the flat dipole.

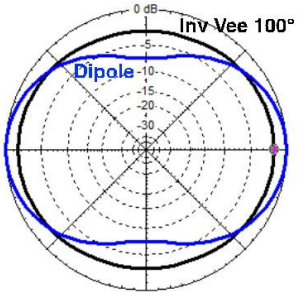


What are the properties of an inverted vee, compared to a flat dipole at the same height? What you'll add is some vertically-polarized radiation, a more omnidirectional pattern, and sometimes a lower SWR. What you'll lose is a bit of peak gain since the pattern of the dipole has diminished. Exact results will depend upon A) the apex angle and B) height above ground.

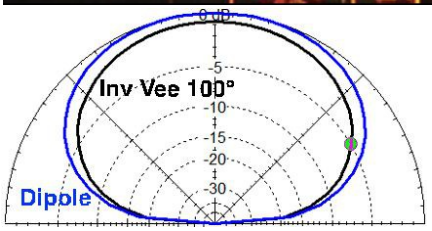
I did some simulation in EZNEC to compare a 40 m dipole to an inverted vee. Everyone should explore this free and very powerful program, available from ***EZNEC*** and discussed in the ARRL Antenna Handbook among other places.



Both antennas were placed at 30 ft (30 ft apex for the inverted vee), and I tested the apex angle at 100 and 130 degrees. The SWR chart shows the differences but any of these are completely acceptable to any radio with an antenna tuner. In general, the smaller the apex angle, the lower the feedpoint impedance but eventually the mismatch could become problematic if you collapse the antenna much below about 90 degrees. Also, if the ends get very close to the ground the impedance can change rapidly. Keep them up 6 ft or so and the SWR will be fine.



As the inverted vee arms swing downward (smaller apex angle), the pattern in azimuth becomes more omnidirectional. Note that this dipole doesn't have a very strong pattern either. That's because it's quite low, at only 1/4 wavelength in height. You really need to get a dipole up 1/2 wavelength or higher in order to see substantial nulls off the ends (vertical axis in the plot). And if they were up at 1/2 wavelength, peak gain of both antennas would be 3 dB greater. So the rule "as high as possible" is a good one.



Comparing the elevation patterns, there is again little difference, only a couple of dB even with the steeper arms. Also you can see that the gain is highest ***straight up***, which is typical of any low, horizontally-polarized antenna. This is ok for local communication, but less desirable for long-range DX where low takeoff angles are needed. Still, you do radiate significant energy at some low angles and the antenna is generally useful.

In conclusion, the inverted vee can be more convenient to install than a dipole since only the center is at high altitude, and you pay only small penalty in terms of overall performance. Note that you can turn it into a multi-band antenna just like a dipole by adding parallel elements (a fan) or traps.

Editor Notes

Major thanks to Rick, N6XI, and Ann, KD6MOB, for hosting the BBQ gathering at their Truckee home! Had really great attendance, the hamburgers and hot dogs were super, the view from the deck was beautiful, and the weather was perfect … a really fun time for all who could make it. NCCC covers a lot of area and regional gatherings such as this offer in-person opportunities to distant members who cannot make the Bay Area meetings.

This issue of the JUG contains an experiment – both right and left justified text. Opinions vary, some say it looks and possibly reads better. Others have differing opinions Comments are solicited … ***Comment here.***

And, a public service to the several winemakers who are members of NCCC: There is [or was] a winery on the slope of Haleakala [dormant volcano on Maui] above Makena Beach that has proved conclusively that you can't make drinkable wine from a pineapple. There should be no need to ask how I know this.

Another experiment for the JUG: Hank, W6SX, famous for winning the first … and only … NCCC Worked All Contests award, provided an example of unconventional CW as a test to see if we can embed links to Google Drive. Just click on the call sign below ...we guarantee the link is safe. No guarantee that it works however.

K2SSX

Reports to the editor, including the browser you are using, will be appreciated. Click on the Comment link above.

Finally, the goal for the JUG is to publish before the next meeting which usually occurs on the second Tuesday of each month. To achieve this, the deadline for JUG contributions and columns will normally be the previous Wednesday. I'll post a couple of reminders to the NCCC groups.io list but you can mark your calendars.

NCCC Membership Information

If you wish to join NCCC, please fill out an application for membership, which will be read and voted upon at our monthly meeting. To join, you must reside within club territory which is defined as everything in California north of the Tehachapi's up to the Oregon state line, and part of northwestern Nevada (anything within our ARRL 175-mile radius circle centered at 10 miles north of Auburn on Highway 49).

Life Memberships

Life memberships are $250.00 Contact secretary.nccc@gmail.com. Members who have reached 80 years of age have and been an NCCC member for 20 or more years are eligible for Honorary Life Membership ("80/20 Rule"). Contact secretary.nccc@gmail.com

JUG Articles Wanted!

Your help allows us to produce a quality newsletter. Please consider submitting an article! The editor welcomes any and all relevant articles for inclusion in the JUG. The preferred format is plain, unformatted ASCII text, MS Word (.doc/.docx) are acceptable. Indicate the insertion point and title of diagrams and pictures in the text and attach photos/diagrams separately. Pictures should be as high a resolution as available. Please do not spend time formatting your submittal, the publication templates will re-format everything. Send your material to *k6dgwnv@gmail.com* indicating "JUG Submittal" in the subject.

Northern California Contest Club Reflector—Guidelines

The NCCC email reflector is devoted to the discussion of contesting. Topics include contests, station building, dxpeditions, technical questions, contesting questions, amateur radio equipment wants/sales, score posting, amateur radio meetings/ conventions, and membership achievements. Postings may not include personal attacks, politics, or off-subject posts. Such postings will be considered a violation of the Guidelines

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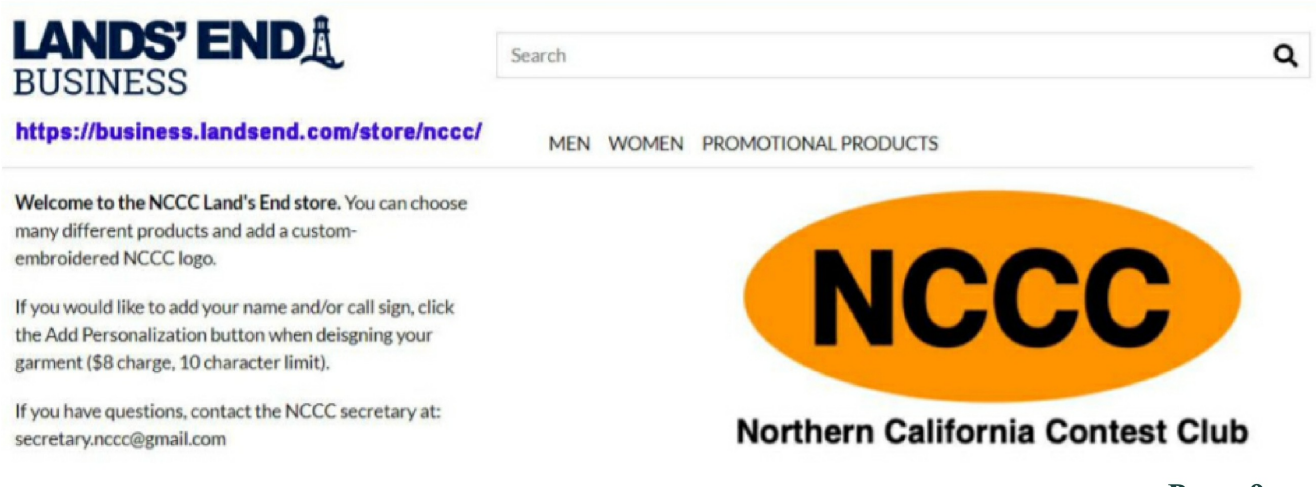

NCCC Lands' End Store

We are pleased to announce that the new NCCC Land's End store is online! You can choose from an array of shirts, jackets, and hats and apply your choice of custom-embroidered NCCC logos: A plain one, or one that also says Fifty Years. And, you can personalize your item by adding your name and/or call sign. The store is open 24/7 and items are shipped directly to you. No more waiting for everyone else to make up their minds on a group purchase.

https://business.landsend.com/store/nccc/ or from the NCCC website: http://nccc.ccc/members/lestore.html
Thanks to W6TCP for helping to set this up. Instructions for purchases from Lands' End NCCC Store

1. Go to https://business.landsend.com/store/nccc/
2. Click on Men's or Women's link, then choose item(s)
3. Pick color, inter quantity of each size you want to order.
4. Click Apply Logos and Personalizations. This will display the logo choices. Try them out. It will show you what they look like on your chosen fabric color.
5. Select a location for logo (left side, ride side, back, etc)
6. Click Apply Logo.
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• Narrow Band and Direct Sampling SDR • Down Conversion, 9MHz IF Roofing Filters Produce Excellent Shape Factor • 5" Full-Color Touch Panel w/3D Spectrum Stream • High Speed Auto Antenna Tuner • Microphone Amplifier w/3-Stage Parametric Equalizer • Remote Operation w/optional LAN Unit (SCU-LAN10)

FT-991A | *HF/VHF/UHF All Mode Transceiver*

Real-time Spectrum Scope with Automatic Scope Control • Multi-color waterfall display • State of the art 32-bit Digital Signal Processing System • 3kHz Roofing Filter for enhanced performance • 3.5 Inch Full Color TFT USB Capable • Internal Automatic Antenna Tuner • High Accuracy TCXO

FTDX101D | *HF + 6M Transceiver*

• Narrow Band SDR & Direct Sampling SDR • Crystal Roofing Filters Phenomenal Multi-Signal Receiving Characteristics • Unparalleled - 70dB Maximum Attenuation VC-Tune • 15 Separate (HAM 10 + GEN 5) Powerful Band Pass Filters • New Generation Scope Displays 3-Dimensional Spectrum Stream

FT-710 Aess | *HF/50MHz 100W SDR Transceiver*

• Unmatched SDR Receiving Performance • Band Pass Filters Dedicated for the Amateur Bands • High Res 4.3-inch TFT Color Touch Display • AESS: Acoustic Enhanced Speaker System with SP-40 For High-Fidelity Audio • Built-in High Speed Auto Antenna Tuner

FT-891 | *HF+50 MHz All Mode Mobile Transceiver*

Stable 100 Watt Output • 32-Bit IF DSP • Large Dot Matrix LCD Display with Quick Spectrum Scope • USB Port Allows Connection to a PC with a Single Cable • CAT Control, PTT/RTTY Control

FTM-300DR | *C4FM/FM 144/430MHz Dual Band*

• 50W Output Power • Real Dual Band Operation • Full Color TFT Display • Band Scope • Built-in Bluetooth • WiRES-X Portable Digital Node/Fixed Node with HRI-200

FT-2980R | *Heavy-Duty 80W 2M FM Transceiver*

• 80 watts of RF power • Large 6 digit backlit LCD display for excellent visibility • 200 memory channels for serious users

FTM-200DR | *C4FM/FM 144/430MHz Dual Band*

• 1200/9600bps APRS® Data Communications • 2" High-Res Full-Color TFT Display • High-Speed Band Scope • Advanced C4FM Digital Mode • Voice Recording Function for TX/RX

FTM-400XD | *2M/440 Mobile*

• Color display-green, blue, orange, purple, gray • GPS/APRS • Packet 1200/9600 bd ready • Spectrum scope • Bluetooth • MicroSD slot • 500 memory per band

FT-70DR *C4FM/FM 144/430MHz Xcvr*

• System Fusion Compatible • Large Front Speaker delivers 700 mW of Loud Audio Output • Automatic Mode Select detects C4FM or Fm Analog and Switches Accordingly • Huge 1,105 Channel Memory Capacity • External DC Jack for DC Supply and Battery Charging

FT-5DR *C4FM/FM 144/430 MHz Dual Band*

• High-Res Full-Color Touch Screen TFT LCD Display • Easy Hands-Free Operation w/Built-In Bluetooth® Unit • Built-In High Precision GPS Antenna • 1200/9600bps APRS Data Communications • Supports Simultaneous C4FM Digital • Micro SD Card Slot

FT-65R | *144/430 MHz Transceiver*

Compact Commercial Grade Rugged Design • Large Front Speaker Delivers 1W of Powerful Clear Audio • 5 Watts of Reliable RF Power Within a compact Body • 3.5-Hour Rapid Charger Included • Large White LED Flashlight, Alarm and Quick Home Channel Access

FTM-6000R | *50W VHF/UHF Mobile Transceiver*

• All New User Operating Interface-E2O-III (Easy to Operate-III) • Robust Speaker Delivers 3W of Clear, Crisp Receive Audio • Detachable Front Panel Can Be Mounted in Multiple Positions • Supports Optional Bluetooth® Wireless Operation Using the SSM-BT10 or a Commercially Available Bluetooth® Headset

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